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ABSTRACT

The paper explores the differences in the relationship between educational background and income for black and white men in six different career areas. Previous research has assumed that the value of education is the same across all fields of work. In this study, the author analyzed educational and income data for 20,000 white men and 1,500 black men from the 1970 census reports. All the men's occupations were classified into six categories, including manual trades, scientific, sales and management, and clerical. Regression analyses were used to compare the returns to education for blacks and whites in each type of work. Results show that the income determination process may be similar for blacks and whites in blue-collar work, in science and medicine, and in social service and educational work. However, blacks in sales, management, and clerical work appear to be treated differently than whites in such work. The black men consistently receive lower income per years of schooling than do white men. The differences in these areas may be due to past discrimination against blacks or to differences in the types of job activities and occupational rewards preferred by blacks. (Author/AV)



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# The Relation of Education and Situs of Work to Economic Differences between Blacks and Whites

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Increasing the quantity and quality of education of individuals and groups has been a traditional strategy for raising their economic status. Disenchantment with this strategy increases, though, as it becomes clear that education is not the panacea once thought. Most studies of the economic returns to education suggest that the returns are substantially lower for blacks than for whites (Weiss, 1970; Flanagan, 1974; Link and Ratledge, 1975). In other words, additional education does not appear as useful for raising income among blacks.

These racial differences in the economic value of education remain largely unexplained. Differences in the quality of education is one common explanation, discrimination in the labor market is another. In this paper I show one previously-unnoticed source of this racial difference in returns: (a) the rates of return to education are quite different even among white men in different broad occupational markets, (b) blacks are found relatively more often than whites in the markets with the lowest rates of return, and (c) the returns to education are similar for blacks and whites in some occupational markets, but not in others. The results are important because they imply that blacks of all educational levels are most underrepresented and disadvantaged in the one type of work that is most important for the economic growth of the black community--management, sales, and other entrepreneurial work.

Previous Research

Most stratification research has assumed that achievement processes are the same in all kinds of occupations, and that the value of education is the same across all fields of work. Studies typically produce a single estimate for the income-producing value of years of schooling in each population studied--e.g. blacks, whites, males, and females. However, there is ample evidence that different functional kinds (situses) of work such as science, business, and art require different worker competencies, attract people with divergent interests and values (Thorndike and Hagen, 1959; Strong, 1943), and so probably constitute different incentive and reward systems. These different situses of work can be seen as different occupational labor markets, each with its own rules for entry and advancement. The value of additional schooling, vocational training, academic aptitudes, or other personal resources may vary considerably among the different kinds of work.

In an earlier study (Gottfredson, 1976) I found evidence that achievement processes do differ by kind or situs of work. In particular, I found that the rates of return to education are two to four times as high in some kinds of work as in others, and that these results are replicated across age groups. These differences in rates of return were found among white men working full time--a population in which differences in achievement processes are usually assumed to be minimal. In fact, these differences are much larger than those

previously found between the races, sexes, or other social groups.

In addition, black men are underrepresented in situses with high returns to education and overrepresented in work with low returns. This finding suggested that education might actually be as valuable for blacks as for whites, but that it might not appear so on the average because blacks tend to enter kinds of work where even whites realize low returns to education. I tested that possibility in this study.

Method

The data were obtained from a 1/1000 sample from the 1970 census of population. Black and white men employed fulltime (35 hours or more) in civilian, non-farm jobs were selected for analysis. Differences among young people (people less likely to have established stable and differentiated careers) are small whether the workers are of the same race or of different races, so the analysis was restricted to men aged 36 to 65. The final sample consisted of approximately 20,000 white men and 1,500 black men.

All men were classified into one of six broad categories in Holland's (1973) classification of occupations: Realistic (manual and skilled trades), Investigative (science and medicine), Artistic, Social (education and social service), Enterprising (sales and management), and Conventional (clerical). Holland's classification is widely used in vocational psychology and is reviewed in detail elsewhere (Holland, 1973; Osipow, 1973; Walsh, 1973). The important

point about the classification for this study is that it captures horizontal differences among jobs, and it can be used together with status or prestige scales to provide a two dimensional picture of the occupational structure. Each of the six categories of work was treated as a separate situs of work.

Regression analyses were used to compare the returns to education for blacks and whites in each situs of work. The procedure was to regress 1969 income on five determinants of income--years of education, occupational prestige (Temme, 1975), age, hours worked per week, and weeks worked in 1969. Hours and weeks worked were included to control for time spent working. Occupational prestige was included because status attainment researchers often include it to control for the effects of occupational level upon income (Sewell and Hauser, 1975). Regressions were calculated separately for blacks and whites within each of the six kinds of work.

This simple model of income determination yields the same conclusions as do models including more income determinants,[1] so the simpler model is presented here. The absolute values of the regression coefficients for education vary somewhat according to the determinants included, but the same large differences across situses remain.

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[1] Additional income determinants included potential years of work experience (age minus years of education minus six), presence of a disability that limits work, marital status, employment by government, and a history of any vocational training. Age was deleted from models including potential experience.

Unstandardized regression coefficients are commonly used as indicators of the value of education, so that practice is followed here to provide comparability with other studies.

Differences in Returns to Education

Table 1 shows the results of the regression analyses, and it illustrates the firdings I reported earlier. The regression coefficients for education vary by situs--from $268 per year of education in Realistic work to $1020 in Enterprising work. The coefficient for all white men pooled together is about $500. The regression coefficients illustrate that returns to education may vary by up to a factor of four among the different situses of work.

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Insert Table 1 here
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The table also replicates the finding that the regression weight--and presumably the value--of education is greater for whites than for blacks on the average: $496 versus $236. This racial difference does not hold, however, when situses are examined separately. The regression coefficients for education are similar for blacks and whites in three situses of work--Realistic, Investigative, and Social. Over two thirds of the white men and almost 90% of the black men are in one of these three kinds of work. In contrast, the weights are much lower for blacks than for whites in Enterprising and Conventional work--the situses which also appear to have the greatest economic returns per year of education among the white men.

For example, instead of a return of about $1000, blacks appear to realize a return of only $400 in Enterprising work.

New and larger samples of blacks are required to cross validate the observed differences. Although the conclusions are only tentative, they have important implications for the study and amelioration of racial inequality. The results suggest that income determination processes may be much the same for black and white men in blue-collar work, in science and medicine, and in social service and educational work. But they also suggest that blacks in sales, management, and clerical work may be treated quite differently or have different personal characteristics than whites in such work.

Differences in Distributions by Situs

A look at the distribution of whites and blacks by situs of work suggests that even if blacks were to be treated equally in all situses of work, large economic differences between black and white men would still exist. Table 2 shows the percentage of men at different educational levels who are found in each of the six situses of work. It shows that a higher percentage of blacks at all educational levels are in Social and Realistic work, and that whites are found relatively more often in Enterprising work. Differences between the most highly educated blacks and whites suggest why a college degree is often not as economically rewarding for blacks. Almost 40% of the whites with 16 or more years or education but only 12% of the blacks are in Enterprising work--the work with the highest

apparent income returns to education. On the other hand, only a fifth of the whites but almost half of the blacks are in Social jobs--work with low economic returns. This difference is not necessarily a result of blacks being restricted to generally less desirable jobs than whites, because the prestige of the Social jobs is higher than that of Enterprising work (Gottfredson, 1976).

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Insert Table 2 here
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Discussion

The source of these racial differences in kind of work held and in returns to education is not clear. No doubt much of it is the result of past discrimination against blacks. More hostility and discrimination may have been directed to black managers, administrators, and salesmen than to black educational, health, religious, and other social service workers. These differences may also be maintained in part by current differences in the types of job activities and occupational rewards preferred by blacks. Social jobs such as teaching are low-paying but many are prestigious and secure. Managers and salesmen--Enterprising workers--have higher average incomes, but their incomes fluctuate more and their jobs are less prestigious. Past studies have shown that blacks more often prefer the Social jobs than do whites (Nafziger et al., 1974). For instance, black college students have typically chosen education majors at two to three times the rate of whites (Sharp, 1970; Freeman, 1974).

Whatever the reason for the racial differences in jobs held and returns realized, the differences affect the economic growth of the black community. They directly affect the incomes of individual workers and the well being of their families. But they also affect the future of black capitalism. It is among entrepreneurs (e.g. managers, salesmen, and business owners) that wealth is created and controlled. It is in the entrepreneurial business setting that successful businessmen are trained and launched on their careers, but few blacks have been systematically exposed to this setting. The educational gap between blacks and whites is closing (Hauser and Featherman, 1976) but if blacks continue to be channeled into or prefer socially desirable but less economically rewarding work, increased education may produce little growth in the economic strength of the black community.

The results presented here refer primarily to men who entered the labor force before 1960, and opportunities for blacks have improved since that time. The racial differences associated with situs of work may be disappearing, but I have seen no convincing evidence that they are. The results suggest that resources could be focused on providing young blacks more systematic exposure to information, training, and experience in entreprenuerial work. Any such program should be preceeded, though, with efforts to discover why returns to education appear to be so low for blacks in this kind of work.

TABLE 1

Unstandardized Regression Coefficients (b) and Squared Multiple Correlation ($R^2$) from Predicting Income: White and Black Men 36-65 by Situs of Work



| Predictors | Situs of Work[a] | | | | | |
|---|---|---|---|---|---|---|
| | R | I | S | E | C | Total |
| | Whites | | | | | |
| Education | 268 | 554 | 384 | 1020 | 635 | 496 |
| Prestige | 135 | 304 | 62 | 207 | 137 | 181 |
| Hours | 47 | 270 | -32 | 68 | 124 | 84 |
| Weeks | 116 | 98 | 171 | 218 | 147 | 149 |
| Age | -15 | 98 | 57 | 103 | 50 | 35 |
| Intercept | -5656 | -31778 | -7597 | -27978 | -18720 | -15136 |
| $R^2$ | .22 | .44 | .12 | .18 | .21 | .28 |
| (N) | (10,379) | (1423) | (1124) | (4941) | (1113) | (18,980) |
| | Blacks | | | | | |
| Education | 216 | 611 | 332 | 439 | 335 | 236 |
| Prestige | 94 | 162 | 54 | 116 | 105 | 86 |
| Hours | 10 | -70 | -34 | -50 | 60 | 4 |
| Weeks | 80 | 309 | 44 | 146 | 116 | 85 |
| Age | -8 | 90 | -34 | 38 | 18 | -6 |
| Intercept | -2405 | -22872 | -13935 | -8270 | -9444 | -2510 |
| $R^2$ | .17 | .55 | .26 | .36 | .41 | .25 |
| (N) | (1234) | (35) | (96) | (82) | (69) | (1516) |

[a] R (Realistic), I (Investigative), S (Social), E (Enterprising), C (Conventional). Men in Artistic work are excluded from the analysis because there are too few cases for analysis.

TABLE 2

Percentage of Men in Each Situs of Work:

by Race and Educational Level

(Men Employed Full Time in 1970)

| Situs of Work | Years of Education | | | | | |
|---|---|---|---|---|---|---|
| | 8 or fewer | 9-11 | 12 | 13-15 | 16 or more | Total |
| | | | Whites | | | |
| Real | 82.0 | 70.5 | 55.2 | 31.8 | 10.2 | 53.8 |
| Inv | 3.4 | 3.7 | 5.1 | 8.1 | 20.8 | 7.4 |
| Art | 0.2 | 0.6 | 1.4 | 2.8 | 4.0 | 1.6 |
| Soc | 1.9 | 2.7 | 3.7 | 5.1 | 19.2 | 5.8 |
| Ent | 10.6 | 18.4 | 27.6 | 41.8 | 38.6 | 25.9 |
| Conv | 2.0 | 4.0 | 7.0 | 10.4 | 7.2 | 5.8 |
| (N) | (4040) | (3892) | (5951) | (2239) | (3164) | (19286) |
| | | | Blacks | | | |
| Real | 92.0 | 89.2 | 72.9 | 50.0 | 15.6 | 81.0 |
| Inv | 0.8 | 0.6 | 3.8 | 6.4 | 12.2 | 2.3 |
| Art | -- | -- | 0.8 | 2.1 | 4.4 | 0.5 |
| Soc | 2.2 | 2.6 | 6.1 | 13.8 | 46.7 | 6.3 |
| Ent | 3.7 | 3.7 | 8.0 | 10.6 | 12.2 | 5.4 |
| Conv | 1.2 | 4.0 | 8.4 | 17.0 | 8.9 | 4.5 |
| (N) | (727) | (351) | (262) | (94) | (90) | (1524) |

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